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PREDICTIVE VALUE OF BIOMARKERS CA15-3, LASA-P AND CEA IN DETECTING CARCINOMA IN SUSPICIOUS BREAST LUMPS. R. Siegel, J. Rae, S. Mertz, G. Geelhoed, R. Foemmel. The George Washington University Medical Center, Washington, D.C. 20037.

A series of 117 women with suspicious breast lumps had serum CA 15-3, LASA-P, and CEA levels drawn just prior to excisional biopsy in order to assess their utility in helping to decide whether or not a biopsy should be performed. No patient had a history of previous carcinoma. All biomarker samples were obtained within 48 hours of the biopsy. Of 117 biopsies obtained, 86 were positive for adenocarcinoma. Among the 86 patients, 36 showed elevation of at least one biomarker, 10 had elevation of two biomarkers and 1 had elevation of all three biomarkers. Fifty patients with positive biopsies had negative biomarkers. Of 31 biopsy negative patients, 27 had negative biomarker studies. Among the 4 patients with falsely elevated elevated biomarkers, 2 had elevations in LASA only, one had elevated CA15-3, and one had elevations of both LASA-P and CEA. Biomarkers appear to have a low sensitivity (42%) for detecting breast cancer, but have a relatively high specificity (90%). We conclude that normal levels of CA15-3, CEA, and LASA-P are not helpful in making judgements regarding breast biopsy. However, women with elevations of one or more of these biomarkers should undergo breast biopsy.

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DEMONSTRATION AND ISOLATION OF A GLYCOPROTEIN TUMOR ASSOCIATED ANTIGEN FROM SERA OF MELANOMA PATIENTS. D. Euhus, R. Gupta, J. Wong and D. Morton. Surgical Oncology, John Wayne Cancer Clinic, Jonsson Comprehensive Cancer Center, UCLA Medical Center, Los Angeles, CA 90024.

We previously described a high molecular weight (HMW) glycoprotein antigen in the urine of 68% of melanoma patients which is different from other reported HMW melanoma antigens. Because this antigen was detected using autologous and allogeneic antibody in ELISA, it was termed urinary tumor associated antigen (U-TAA). This investigation was undertaken to detect and characterize U-TAA in the serum of melanoma patients. A murine monoclonal IgM antibody to U-TAA was developed and used in ELISA to detect antigen in serum samples. Sera of 64%.(33/52) of Stage II and III melanoma patients but only 7% (1/14) of normal controls were positive for U-TAA. Positive and negative samples were fractionated by dye ligand and gel filtration chromatography, DEAE anion exchange chromatography or 4.5% polyethylene glycol percipitation. U-TAA from positive sera was in the IgG and IgM fractions; similair fractions of negative sera were devoid of U-TAA activity. U-TAA was recovered from some sera free of IgG and IgM by anion exchange chromatography. The free U-TAA in serum had a molecular mass of 620 kD by gel filtration chromatography. The 620 kD material seperated into four bands in SDS-PAGE two of which, 142 kD and 111 kD, corresponded to those present in U-TAA from urine. These results clearly indicate that U-TAA circulates in melanoma patients as immune complexes containing IgG and IgM and as free antigen. Methods for purification of tnis antigen have been developed. Investigations utilizing the pure antigen will contribute to our understanding of cancer immunobiology and provide valuable reagents for the immunoprognosis of human melanoma. (Supported by CA12582, CA30019 and CA09010.)

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CA-195, A NEW TUMOR MARKER FOR PANCREATIC CANCER Laurence M. Demers*, Jerry D. Glenn**, Departments of Pathology* and Surgery and Microbiology**, M.S. Hershey Medical Center The Pennsylvania State University, Hershey, PA 17033 and Pramod Gaur, Hybritech, Inc. San Diego, CA 92126

CA-195 is a circulating tumor associated antigen recently identified in high concentrations in the serum of patients with colon cancer. A recent report suggests the utility of this tumor marker in patients with pancreatic cancer. To examine this possibility we measured CA-195 serially in 40 patients with documented pancreatic cancer using a monoclonal antibody based immunoradiometric assay for CA-195 and compared results in these patients to two other colorectal malignancy tumor markers CA19-9 and CEA. In addition, 9 patients with gastric carcinoma were also evaluated with these tumor markers. CA-195 was significantly raised ($P < 0.01$) in 34/40 (85%) patients with pancreatic CA. In contrast, 33/40 (83%) had a significant elevation in CA19-9 while 8/28 (30%) had elevations in CEA. A comparison of absolute values between CA-195 versus CA19-9 yielded a significant ($P<0.01$) correlation coefficient of 0.79. Both CA-195 and CA19-9 showed a 22% positivity in the gastric carcinoma population with mild elevations seen in the same two patients. These findings support the utility of CA-195 as well as CA19-9 as sensitivite tumor markers for pancreatic cancer and suggests their usefulness in following patients with this malignancy.

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IS WATER-SUPPRESSED PROTON NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY OF PLASMA LIPOPROTEINS USEFUL IN CANCER DETECTION? J.M.NABHOLTZ, A.ROSSIGNOL, M.FARNIER, S.FRIEDMAN, P.GAMBERT, J.CUISENIER, J.C.TREMEAUX and J.GUERRIN. Centre Georges-François Leclerc,Dijon ; UA33 CNRS,Faculté des Sciences, Dijon ; Institut Gustave Roussy,Villejuif ; Laboratoire de Biochimie Médicale, Hôpital du Bocage,Dijon ; Service d'Urologie, Hôpital Général, Dijon, FRANCE.

A recent study (N.Eng.J.Med.1986; 315: 1369-76), described a method to detect malignant tumors by water-suppressed Proton Nuclear Magnetic Resonance (1H NMR) study of plasma. We performed a similar study of the parameter $W_{1/2}$, a mean of the full width at half height of the resonances of the methyl and methylene groups of the lipids of plasma lipoproteins which is inversely related to the spin-spin apparent relaxation time (T2*). $W_{1/2}$ values were measured at a fixed baseline width of 310 Hz. The study was prospective and blinded and comprised 182 subjects consisting of 40 control(C), 68 with untreated malignancies(UM), 45 with progressing malignant tumors undergoing therapy(TM) and 29 with benign tumors(BT). The $W_{1/2}$ mean value of the four groups showed a difference between the C and TM groups ($p=0.04$) but the mean for the C, UM and BT groups were identical. No differences were seen between any group on scatter pattern that could serve as a basis for a useful clinical test. The major difficulty in the determination of $W_{1/2}$ was due to interference of metabolite protons (particularly lactate) within the lipoprotein resonance signal. Triglyceride level was seen to correlate inversely with $W_{1/2}$ within malignant groups (UM,TM) ($r=-0.62, p<0.01$) and no correlation was found between $W_{1/2}$ and total cholesterol, HDL-cholesterol and (LDL+VLDL)-cholesterol levels. These discrepant results may be related to differing triglyceride-rich Very Low Density Lipoprotein levels in the patient populations of each study. We conclude that the water-suppressed 1H NMR spectroscopy of plasma lipoproteins is not a valid measurement method for assessing malignancy. We currently are undertaking a similar study using lipoprotein subfractions.